

CLAIMS:

1. A method comprising:
storing state data defining a current viewing location within a data table storing
5 multidimensional data;
formatting a web page based on the state data; and
communicating the web page to a client device for display to a user.
2. The method of claim 1, wherein storing state data defining the current viewing
10 location within the data table comprises storing a starting row and a starting column within
the data table.
3. The method of claim 1, wherein storing state data comprises storing one of a
font size, a column width, a row width, a column height, a row height, one or more column
15 labels and one or more row labels.
4. The method of claim 1, wherein formatting the web page based on the state
data comprises:
calculating widths and heights for rows and columns of the web page based on data of
20 the data table; and
generating code to format the web page according to the calculated widths and
heights.
5. The method of claim 4, wherein the code comprises HTML.
6. The method of claim 1, wherein formatting the web page comprises
embedding scroll bars in the web page based on an amount of data within the data table.
7. The method of claim 1 further including storing the data table on the client-
30 device.

8. A computer-readable medium having instructions thereon to cause a programmable processor to:

store state data defining a current viewing location within a data table storing multidimensional data;

5 format a web page based on the state data; and

communicate the web page to a client device for display to a user.

9. The computer-readable medium of claim 8 further including instructions to cause the processor to store a starting row and a starting column within the data table.

10. The computer-readable medium of claim 8 further including instructions to cause the processor to store one of a font size, a column width, a row width, a column height, a row height, one or more column labels and one or more row labels.

11. The computer-readable medium of claim 8 further including instructions to cause the processor to:

calculate widths and heights for rows and columns of the web page based on data of the data table; and

generate code to format the web page according to the calculated widths and heights.

12. The computer-readable medium of claim 8 further including instructions to cause the processor to embed scroll bars in the web page based on an amount of data within the data table.

13. The computer-readable medium of claim 8 further including instructions to cause the processor to communicate the data table to the client-device.

14. A system comprising:

a database storing multidimensional data;

30 a server to access the multidimensional data; and

a client device coupled to the server to display a portion of the data to a user, wherein the client device includes a virtual table to store data received from the server; and further wherein the server includes state data defining a current viewing location within the virtual table.

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15. The system of claim 14, wherein the server includes a page generation module to format a web page based on the state data.

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16. The system of claim 14, wherein the server includes a packet engine to communicate the data to the client-device in a stream of packets.

17. The system of claim 14, wherein the state data includes a starting row and a starting column within the virtual table.

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18. The system of claim 14, wherein the state data includes one of a font size, a column width, a row width, a column height, a row height, one or more column labels and one or more row labels.

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19. The system of claim 15, wherein the page generation module calculates widths and heights for rows and columns displayed to the user based on data of the data table.

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20. The system of claim 15, wherein the page generation module embeds scroll bars in the web page based on an amount of data within the virtual table.

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21. A method comprising:
communicating multidimensional data to a client device;
storing the data on the client-device;
storing pointers defining a viewable window within the stored data;
formatting a web page to include data within the viewable window of the stored data;
and

displaying the web page to a user.

22. The method of claim 21, wherein communicating the multidimensional data comprises communicating the data to a client-device in a stream of packets; and wherein
5 storing the data comprises assembling the packets to form a virtual table on the client device.

23. The method of claim 21 further comprising:
transmitting an initial set of data packets to the client device;
storing data from the initial set of data packets; and
10 formatting the web page based on the data of initial set of data packets.

24. The method of claim 23 further comprising:
receiving a request for any remaining data packets; and
communicating the remaining data packets to the client device.
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25. The method of claim 21 further comprising:
receiving a user request to scroll the viewable window through the data;
updating the pointers defining the viewable window based on the scroll request; and
refreshing the display of the client device to include data encompassed by the
20 viewable window.

26. The method of claim 25 further comprising:
reordering rows of a document object model based on input received from user; and
filling the document object model with data encompassed by the viewable window.
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27. The method of claim 21 further comprising:
receiving a user request to expand a member of the multidimensional data;
retrieving data for children of the expanded member as a function of the viewing
window;
30 updating the pointers defining the viewable window to include the children of the
expanded member; and

refreshing the display of the client device based on the expanded viewable window.

28. The method of claim 27 further wherein retrieving the multidimensional data comprises:

5 constructing a database query based on the pointers defining the viewable window;
and
querying a database to retrieve rows proximate to the viewable window.

29. The method of claim 27 further comprising:
10 storing a report object defining at least the dimensions and members of the
multidimensional data;

updating a report object to include children of the member to be expanded.

30. The method of claim 29, further comprising:
15 storing the data on the client device as a virtual table; and
generating client-side script to update the virtual table to accommodate the expanded
member.

31. The method of claim 29 further comprising:
20 generating client-side script based on the report object;
communicating the client-side script to the client device; and
executing the client-side script to create a representation of the report object on the
client-device.

25 32. The method of claim 31 further comprising generating client-side script to
update the representation to accommodate additional data resulting from the expand request.

33. A computer-readable medium having instructions thereon to cause a
programmable processor to:

30 receive multidimensional data;
store the data in a virtual table;

store pointers defining a viewable window within the virtual table;
format a web page to include data within the viewable window; and
display the web page to a user.

5 34. The computer-readable medium of claim 33 having instructions thereon to
cause a programmable processor to receive the data to a client-device in a stream of packets
and to assemble the packets to form the virtual table.

10 35. The computer-readable medium of claim 34 having instructions thereon to
cause a programmable processor to:
receive an initial set of data packets;
store data from the initial set of data packets; and
format the web page based on the data of initial set of data packets.

15 36. The computer-readable medium of claim 35 having instructions thereon to
cause a programmable processor to:
issue a request for any remaining data packets; and
receive the remaining data packets to fill the virtual table.

20 37. The computer-readable medium of claim 33 having instructions thereon to
cause a programmable processor to:
receive a user request to scroll the viewable window through the data;
update the pointers defining the viewable window based on the scroll request; and
format the web page to include data encompassed by the viewable window.

25 38. The computer-readable medium of claim 37 having instructions thereon to
cause a programmable processor to:
reorder rows of a document object model based on the request received from the user;
and
30 fill the document object model with the data encompassed by the viewable window.

39. The computer-readable medium of claim 33 having instructions thereon to cause a programmable processor to:

- receive a user request to expand a member of the multidimensional data;
- issue a request to a server to retrieve data for children of the expanded member as a
- 5 function of the viewing window;
- update the pointers defining the viewable window to include the children of the expanded member; and
- refresh the display of the client device based on the expanded viewable window.

10 40. A method comprising:

- storing a report object defining dimensions and members of multidimensional data that are included in an electronic report;
- translating the report object into a client-side script;
- communicating the client-side script to a client device; and
- 15 executing the client-side script to create a representation of the report object on the client-device.

41. The method of claim 40, wherein executing the client-side script comprises creating the representation in a native format supported by a web browser.

20 42. The method of claim 41, wherein creating the representation in a native format comprises creating the representation according to a document object model supported by Internet Explorer™ from Microsoft™.

25 43. The method of claim 40, presenting a web-based report to a user based on the client-side representation.

44. The method of claim 40, wherein the client-side representation defines a table having a number of rows and columns for displaying the included dimensions and members.

30 45. The method of claim 40, wherein storing the report object comprises:

storing one or more dimension objects that define a number of dimensions within multidimensional data for the report;

storing one or more query set object that define a database query string for each dimension; and

5 storing one or more member objects that define the included members for each dimension.

46. A system comprising:

a database storing multidimensional data;

10 a server comprising:

a report object defining dimensions and members of multidimensional data that are included in an electronic report;

a page generation module to access the multidimensional data and format a web page based on the report object.

15 a model converter to translate the report object into a client-side script for creating a client-side representation of the report object;

a packet engine to communicate the web page and the client-side script to a client device in a stream of packets.

20 47. The system of claim 46 further including a client device coupled to the server to display the web page to a user, wherein the client device includes a virtual table to store data received from the packet engine.

25 48. The system of claim 47, wherein the server includes state data defining a current viewing location within the virtual table.

49. The system of claim 48, wherein the state data includes a starting row and a starting column within the virtual table.

